The above invention provides a dual method for controlling Engine 24 idle speed in an HEV to accommodate any possible HEV idle situation. The invention uses the Generator Motor 30 coupled to the VSC 46 to control Engine 24 speed for most of the "engine-on" idle modes. As fully described above, operating conditions for which this type of control is used, include steps 130, 150, 170, 190, 210 and 230. These operating conditions may be referred to as a predetermined first set of operating conditions. In alternative situations, such as high battery state of charge or generator failure, the VSC 46 passes control of engine idle speed to the Engine Control Unit 48. These operating conditions may be referred to as a predetermined second set of operating conditions. The invention results in perceived tighter speed control feel by having fewer perturbations in Engine 24 speed.

In The Claims

Please replace claims 1-16 as shown below. A marked up version of the amended claims is attached to this Amendment.

1. (Twice Amended) A method for controlling idle speed of an engine in a hybrid electric vehicle, the vehicle including a battery, a generator operatively coupled to the engine, an engine controller, and a vehicle system controller, the method comprising:

determining whether a set of vehicle idle entry conditions are met, the idle entry conditions being met when the vehicle speed is below a predetermined value and an accelerator pedal is below a predetermined minimum pedal position;

selectively activating the vehicle system controller to control the generator to control engine idle speed when any one of a predetermined first set of operating conditions is present;

selectively activating the engine controller to control engine idle speed when a predetermined second set of operating conditions is present; and

turning off the engine when both the predetermined first set of conditions is not present and the engine has been in a current vehicle idle mode for a predetermined amount of time.